

IT IS CLAIMED:

1. A filter cartridge comprising:
an external tube having a plurality of openings, and
an internal tube having a plurality of openings,
wherein said internal tube is operatively positioned inside
said external tube; and
a diatomite material operatively present in-between
said internal tube and said external tube.
2. An exhaust gas filtering system comprising:
a guard casing;
a filter cartridge operatively secured inside said
guard casing, such that said guard casing houses said filter
cartridge; and
a diatomite material operatively present in said filter
cartridge.
3. The exhaust gas filtering system according to
claim 2, wherein said filter cartridge comprises:
an external tube having a plurality of openings, and

an internal tube having a plurality of openings, wherein said internal tube is operatively positioned inside said external tube; and

a diatomite material operatively present in-between said internal tube and said external tube.

4. The filter cartridge according to claim 1, wherein said plurality of openings in each of said internal tube and said external tube are of a sufficient size for gas to flow therethrough, wherein a core gas passage is formed operatively inside said internal tube, and wherein said internal tube and said external tube has a combined gas inlet at a first end thereof.

5. The exhaust gas filtering system according to claim 3, wherein said plurality of openings in each of said internal tube and said external tube are of a sufficient size for gas to flow therethrough, wherein a core gas passage is formed operatively inside said internal tube, and wherein said internal tube and said external tube has a combined gas inlet at one end thereof.

6. The filter cartridge according to claim 1, wherein said diatomite material is in pellet form.

7. The exhaust gas filtering system according to claim 3, wherein said diatomite material is in pellet form.

8. The filter cartridge according to claim 4, wherein said diatomite material is in pellet form.

9. The exhaust gas filtering system according to claim 5, wherein said diatomite material is in pellet form.

10. The filter cartridge according to claim 1, wherein said plurality of openings in each of said internal tube and said external tube are louvers.

11. The exhaust gas filtering system according to claim 3, wherein said plurality of openings in each of said internal tube and said external tube are louvers.

12. The filter cartridge according to claim 1, wherein said plurality of openings in said internal tube and said external tube are mesh openings.

13. The exhaust gas filtering system according to claim 3, wherein said plurality of openings in said internal tube and said external tube are mesh openings.

14. The filter cartridge according to claim 8, wherein said plurality of openings in said internal tube and said external tube are louvers.

15. The exhaust gas filtering system according to claim 9, wherein said plurality of openings in said internal tube and said external tube are louvers.

16. The filter cartridge according to claim 8, wherein said plurality of openings in each of said internal tube and said external tube are mesh openings.

17. The exhaust gas filtering system according to claim 9, wherein said plurality of openings in each of said internal tube and said external tube are mesh openings.

18. The filter cartridge according to claim 6, wherein said pellets are of a size ranging from about 2/8 inch to about 5/8 inch.

19. The exhaust gas filtering system according to claim 7, wherein said pellets are of a size ranging from about 1/4 inch to about 5/8 inch.

20. The filter cartridge according to claim 8, wherein said pellets are of a size ranging from about 1/4 inch to about 5/8 inch.

21. The exhaust gas filtering system according to claim 9, wherein said pellets are of a size ranging from about 1/4 inch to about 5/8 inch.

22. The filter cartridge according to claim 1, wherein said plurality of openings in each of said internal tube and said external tube range in size from about 1/8 inch to about 3/8 inch.

23. The exhaust gas filtering system according to claim 3, wherein said plurality of openings in each of said internal tube and said external tube range in size from about 1/8 inch to about 3/8 inch.

24. The filter cartridge according to claim 10,
wherein said louvers range in size from about 1/8 inch to
about 3/8 inch.

25. The exhaust gas filtering system according to
claim 11, wherein said louvers range in size from about 1/8
inch to about 3/8 inch.

26. The filter cartridge according to claim 14,
wherein said louvers range in size from about 1/8 inch to
about 3/8 inch.

27. The exhaust gas filtering system according to
claim 15, wherein said louvers range in size from about 1/8
inch to about 3/8 inch.

28. The filter cartridge according to claim 12,
wherein said mesh openings range in size from about 1/8 inch
to about 3/8 inch.

29. The exhaust gas filtering system according to
claim 13, wherein said mesh openings range in size from
about 1/8 inch to about 3/8 inch.

30. The filter cartridge according to claim 16, wherein said mesh openings range in size from about 1/8 inch to about 3/8 inch.

31. The exhaust gas filtering system according to claim 17, wherein said mesh openings range in size from about 1/8 inch to about 3/8 inch.

32. The filter cartridge according to claim 1, wherein said internal tube and said external tube are made from stainless steel, aluminum-coated steel, lead-coated steel, aluminum, polymer-fiberglass, or a combination thereof.

33. The exhaust gas filtering system according to claim 3, wherein said internal tube and said external tube are made from stainless steel, aluminum-coated steel, lead-coated steel, aluminum, polymer-fiberglass, or a combination thereof.

34. The filter cartridge according to claim 4, further comprising a combined second end to said internal tube and

said external tube, and a stopper is operatively secured to the second end.

35. The exhaust gas filtering system according to claim 5, further comprising a combined second end to said internal tube and said external tube, and a stopper is operatively secured to the second end.

36. The filter cartridge according to claim 1, further comprising:

a mesh tube operatively positioned outside and around said external tube, said mesh tube having a plurality of mesh openings.

37. The exhaust gas filtering system according to claim 3, further comprising:

a mesh tube operatively positioned outside and around said external tube, said mesh tube having a plurality of mesh openings.

38. The filter cartridge according to claim 36, wherein said mesh tube is made from stainless steel, aluminum-coated steel, lead-coated steel, aluminum, polymer-

fiberglass or a combination thereof, and wherein said mesh tube ranges in thickness from about 12 gauge to about 16 gauge.

39. The exhaust gas filtering system according to claim 37, wherein said mesh tube is made from stainless steel, aluminum-coated steel, lead-coated steel, aluminum, polymer-fiberglass or a combination thereof, and wherein said mesh tube ranges in thickness from about 12 gauge to about 16 gauge.

40. The exhaust filtering system according to claims 2 or 3, wherein said guard casing is elongated and has a gas inlet end structure and a gas outlet end structure, and said filter cartridge is operatively connected to said gas inlet end structure.

41. The exhaust gas filtering system according to claim 40, wherein said guard casing is made from stainless steel, aluminum-coated steel, lead-coated steel, aluminum, polymer-fiberglass or a combination thereof.

42. The exhaust gas filtering system according to claim 40, wherein said gas inlet end structure is operatively connected to an exhaust pipe which in turn is connected to an internal combustion engine.

43. The exhaust gas filtering system according to claim 3, wherein said guard casing is elongated and has a gas inlet end structure and a gas outlet end structure, wherein said filter cartridge is operatively connected to said gas inlet end structure, wherein said gas inlet end structure is operatively connected to an exhaust pipe which in turn is connected to an internal combustion engine, and wherein a flow of exhaust gas from said engine enters through said gas inlet end structure and through said openings in said internal tube, through said diatomite material and through said openings in said external tube and exits through said gas outlet end structure.

44. The exhaust gas filtering system according to claim 3, wherein said guard casing is elongated and has a gas inlet end structure and a gas outlet end structure, wherein said filter cartridge is operatively connected to said gas inlet end structure, wherein said gas inlet end

structure is operatively connected to an exhaust pipe which in turn is connected to an internal combustion engine, and wherein a flow of exhaust gas from said engine enters through said gas inlet end structure and through said openings in said external tube, through said diatomite material and through said openings in said internal tube and exits through said gas outlet end structure.